AVTECH ELECTROSYSTEMS LTD.

NANOSECOND WAVEFORM ELECTRONICS
ENGINEERING – MANUFACTURING

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INSTRUCTIONS

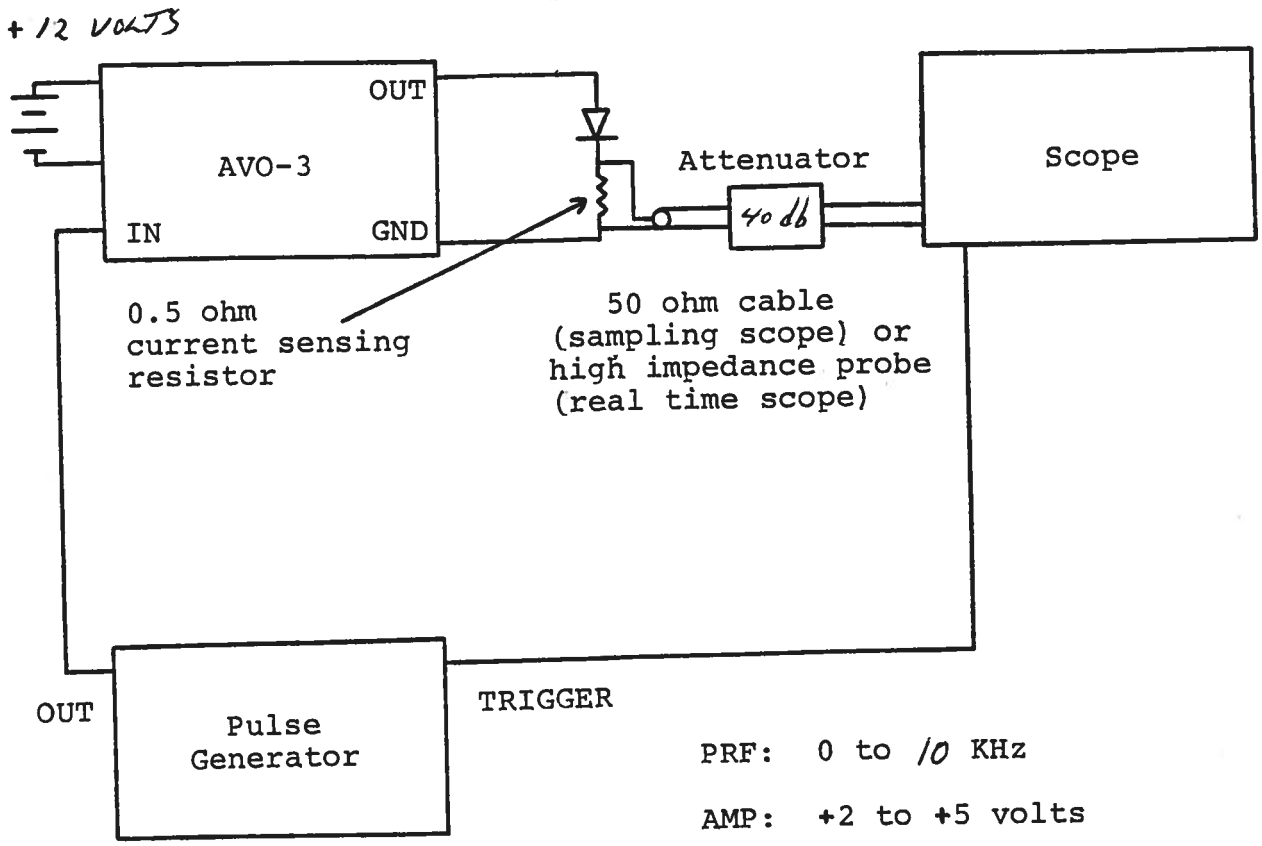
MODEL AVO-3A-P-M1 PULSE GENERATOR

S.N.:

WARRANTY

Avtech Electrosystems Ltd. warrants products of its manufacture to be free from defects in material and workmanship under conditions of normal use. If, within one year after delivery to the original owner, and after prepaid return by the original owner, this Avtech product is found to be defective, Avtech shall at its option repair or replace said defective item. This warranty does not apply to units which have been dissembled, modified or subjected to conditions exceeding the applicable specifications or ratings. This warranty is the extent of the obligation or liability assumed by Avtech with respect to this product and no other warranty or guarantee is either expressed or implied.

Fig. 1 AVO-3 TEST ARRANGEMENT



PRF: 0 to 10 KHz

AMP: +2 to +5 volts

PW: Approx. 0.5 usec

Notes:

1) The laser diode is connected in series with a 0.5 ohm current sensing resistor between the GND and OUT terminals on the front panel. 1/4 watt carbon film or carbon composition resistors may be used but all leads must be as short as possible ($\leqslant$ 0.1 inch). The amplitude of the diode current is determined by the setting of the rear panel AMP pot control, the sensing resistor R_s and by the series resistance of the laser diode. With the LJ30 24 diode, a peak current of 46 Amperes was obtained using the arrangement shown in Fig. 1. This peak current reduced to 35 Amperes when the output of the AVO-3 was shunted by a 5.1 ohm resistor. Note that some diodes may not emit if the output is not shunted by a resistor in the range of 5 to 50 ohms. Test all diodes initially without this shunt resistor and only add if necessary.

2) In general the pulse generator trigger delay control should be set in 0.1 to 1.0 usec range. Other settings should be as shown in the above diagram.

3) Either a sampling oscilloscope or a high speed real time oscilloscope (BW > 500 MHz) may be used to monitor the voltage across the current sensing resistor and therefore the laser diode current. If a sampling scope is used at least 40 db attenuation should be used to insure a scope input voltage of less than 1.0 volt.

4) WARNING: The unit may fail if triggered at a PRF exceeding 10 KHz. Use moderate heat when soldering to the OUT terminal.

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